**High-Speed Compact Modular Mounter**

**RX-7**

Unrivaled productivity in a compact footprint

Advanced high speed and high accuracy

The new RX-7 is the most efficient modular mounter available today.

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**Specification**

<table>
<thead>
<tr>
<th>Item</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High-Speed Compact Modular Mounter  RX-7</td>
</tr>
<tr>
<td>Board size</td>
<td>(P16×P16 nozzle head)</td>
</tr>
<tr>
<td></td>
<td>Single lane conveyor</td>
</tr>
<tr>
<td></td>
<td>500×90~510mm × 450mm</td>
</tr>
<tr>
<td>Component height</td>
<td>3mm (P16 nozzle head)</td>
</tr>
<tr>
<td>Component size</td>
<td>0603(0201)~035mm</td>
</tr>
<tr>
<td>Placement speed</td>
<td>Chip/Optimum: 75,000 CPH</td>
</tr>
<tr>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Placement accuracy</td>
<td>±0.04 mm (Cpk ≥ 1)</td>
</tr>
<tr>
<td>Component loading quantity</td>
<td>38 (10.5 in case of 8mm tape)</td>
</tr>
<tr>
<td>Power supply</td>
<td>AC200V-430V/3-phase</td>
</tr>
<tr>
<td>Apparent power</td>
<td>3.3kVA</td>
</tr>
<tr>
<td>Operating air pressure</td>
<td>0.5 ± 0.05MPa</td>
</tr>
<tr>
<td>Air consumption (standard)</td>
<td>20L/min (during normal operation)</td>
</tr>
<tr>
<td>Machine dimensions</td>
<td>998×1,895×1,530mm</td>
</tr>
<tr>
<td>Mass (approximately)</td>
<td>1,950kg</td>
</tr>
</tbody>
</table>

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**Options**

- **Conveyor**: Support-pin / Support-sponge
- **Inspection function**: Component Verification System (CVS)
- **Others**: Dedicated nozzle [spare nozzle cartridges] / Joint cable / Offset placement after solder screen printing
- **Software**: Line control soft IS-Lite / IFS-NX [Parts verification / Traceability / component inventory control]
- **Component handling and feeders**: Feeder Trolley / Electric tape feeder / Tape real mounting base / Feeder stocker / Splicing Jig / Feeder Calibration Jig with MonitorTray holder / Electric Trolley Power Station
- **Virus measurement software**: White list (standard)
- **Security software**: CAD conversion is optional

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**Line Control Software**

- **Product name**: IS Lite
- **Major functions**: User definition / Facility definition / Component DB / Creating production programs / Line optimization
- **Security**: CAD conversion is optional

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**Security software**

- **Virus measurement software**: White list (standard)

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**Manufacturer’s Dimensions**

- Juki Corporation
- Juki Automation Systems Corporation
- 264-0045, Sanagawa, Tama-ku, Tokyo 208-8551, Japan

**Website**: http://www.juki.co.jp

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*May be subject to change without notice.*

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*Please refer to the product specifications for details.*
The next-generation high density placement

Production line productivity is improved due to the combination of a planet head that provides optimum productive capacity, based on the parts to be placed and the configuration of a flexible production line.

**RX-7**

- Space-saving design with a width of 998 mm
- This is applicable to the dual lane production.
- An optimum production line can be configured for each production item through a combination of heads.
- High productivity based on an original planet head and a structure of parallel two heads
- This is applicable to small-size IC components ranging from 03015 chip to 25 mm square to be placed.

**3E EVOLUTION CONCEPT**

- Easy to use
- Economical
- Expandable

Looking into more attractive products,
- Evolving further for sales and services,
- Aiming to achieve even more enhanced customer satisfaction,
- Together with our customers,
- We will continue evolving even further,
**1. JUKI base technology**

**Basic Technology**

**Planet head technology realizes high speed and a high quality**

Owing to a structure with two parallel heads that is free from mutual interference between mounted heads, the maximum throughput can be realized. For a placement head, users may select between the two types of planet head, namely, P16 nozzle and P8 nozzle. The original lightweight compact planet head technology provides high-speed, high-quality and high-accuracy placement.

![Parallel head configuration](Image)

- **P16 nozzle head:** Optimum for the placement of very small components from 03015 to 5 mm square components.
- **P8 nozzle head:** Optimum for the placement of very small components from 0603 to 25 mm square components.

- **Substantial inspection items**
  - Tombstone inspection, component existence/non-existence inspection and front/rear reverse inspection can be executed. High-quality placement of very small components can be realized. Moreover, the automatic pick position correcting function corrects the component pick position automatically to enhance the pick rate.

**Basic Technology**

**P16 nozzle head that realizes high-speed high-density placement of very small components**

Regarding the P16 nozzle, the Z-axis stroke at component pick and component placement can be minimized by inclining the head’s rotary axis. The two cameras incorporated in the head unit can recognize component thickness and weight with high accuracy. High-speed and high-accuracy placement at a placement speed of 75,000 CPH (optimum condition) and a component placement accuracy of ±0.04 mm (Cpk ≥ 1) is realized.

![Component side recognition camera](Image)

- Component side recognition camera
- Component bottom side recognition camera
- Imaging point
- Ripe point

**Basic Technology**

**P8 nozzle head that realizes high-speed and high-accuracy placement of middle and small general-purpose components**

The P8 nozzle head can place components ranging from very small chip components to small and medium general-purpose components. High-speed and high-accuracy placement can be realized with high-accuracy overall vision recognition using a VCS camera. This can also perform component reverse inspection and component existence/non-existence inspection in the same way as the P16 nozzle head.

- **VCS camera**
  - Component side recognition camera
  - Component vision by VCS camera

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**2. High Productivity**

**Flexibility**

**Wide component range**

The P16 nozzle head is applicable to very small components with a size of 03015 to 5 mm square and the maximum height of 3 mm. The P8 nozzle head is applicable to components with a size of 0603 to square25 mm and the maximum height of 10.5 mm, for example, small IC components such as QFP and BGAs. These two types of planet head can provide the highest performance for various production needs.

- **Component range from 03015 to 5 mm square:** P16 nozzle head
- **Component range from 0603 to 25 mm square:** P8 nozzle head

**Flexibility**

**By combination of head, various production be available to flexible production line**

Users may select an optimum head according to production items and components to be placed. A combination of the P16 and P8 nozzle heads and a production line configuration allow a mass production line for smartphones and a high-speed placement line for various production items. The performance of the machine itself and a line balance of the whole placement line is improved, thereby increasing productivity.

- **P16 nozzle head**
  - Placement and high-speed placement of very small components
- **P16 nozzle head**
  - Placement of very small size to medium-size components
- **P8 nozzle head**
  - Placement of medium-size components such as BGAs, which are extremely versatile

© When using P8 nozzle head.
© Please contact to us for detail.
3. High Quality

Productivity

Space-saving design with a width of 998 mm

Super-slim 998mm width! At 75,000 CPH, the RX-7 provides excellent placement per square foot.

Placement speed (Optimum) : 75,000 CPH
Component size : 03015 ~ 06035 mm
0603 (2011) ~ 02015 mm
※ 1 when using P16 × P16 nozzle head
※ 2 when using P8 × P8 nozzle head

Rated 75,000 CPH®
※ Under optimal conditions

Productivity

This is applicable to dual-lane production.

This dual-lane transport system comes as standard. The PWB transport wait time is minimized, which can improve the effective tact for high-speed production.

Single lane conveyor
Dual lane conveyor

Maximum PWB size of 50 x 50 mm to 510 x 450 mm
Maximum PWB size of 50 x 50 mm to 510 x 250 mm
※ When using a long size PWB mode

【RX-7 dual-lane production system】
1. Board B is placed by using the left head and board A is placed by using the right head simultaneously. In this period, the transport standby of board C is completed.
   board C board A
   [head ----- ???] [head ----- ???]
   board B board D
2. Board C is placed by using the left head and board B is placed by using the right head simultaneously. In this period, the transport standby of board D is completed.
   board C board A
   [head ----- ???] [head ----- ???]
   board B board D

Productivity

High-accuracy placement using new-structure camera recognition

Clearer imaging can be performed with the recognizing technology using new-structure coaxial lighting. As a result, high-accuracy placement recognition can be realized.

0402 chip component
0603 chip component
Small type BGA
Glass jig recognition

4. High Flexibility

Quality

Component Verification System (CVS)

By measuring the resistance, capacitance, or polarity before production starts, the machine can prevent incorrect components from being placed.

Check the Resistance, Capacitance and Polarity before production starts.

Prevents incorrect component/reel from being used
Prevents incorrect component placement

Quality

Reduce errors due to solder paste alignment (Offset Placement After Solder printing)

The OPASS function uses the machine’s downward looking camera to check the location of solder paste vs. the pads and corrects the placement accordingly. This function reduces defects caused by misalignment of the paste on the pads.

Unique feature

FCS (Flex Calibration System)

JUKI’s highly regarded easy maintenance just got even easier! The optional FCS calibration jig is a simple to use system to re-calibrate placement accuracy. The machine automatically picks and places jig components, then measures the error and adjusts all necessary calibrations. (optional)

IFS-NX (Intelligent Feeder System)

The Intelligent Feeder System (IFS-NX) option provides enhanced setup control by verifying part barcodes to smart feeders. Traceability to the reference designator level is available as an option. Other functions include inventory tracking, and feeder setup assistance.

Option

IFS-NX (Intelligent Feeder System)